

What Is Claimed Is:

1. Optical assembly having a plurality of optical elements, forming a projection objective or an illuminating system, wherein at least one optical element is connected to a structure dynamically decoupled from the optical assembly, as a result of which it is substantially dynamically decoupled from the remaining optical elements of the optical assembly.

2. Optical assembly according to Claim 1, wherein provided in a housing of the optical assembly is at least one opening through which said dynamically decoupled optical element can be connected to the structure dynamically decoupled from the optical assembly.

3. Optical assembly according to Claim 1 or 2, wherein sensors are provided for determining the position of said optical element relative to the housing or relative to the remaining optical elements of the optical assembly.

4. Optical assembly having a plurality of optical elements forming a projection objective or an illuminating system and a beam path produced therein, wherein by means of a feeder device at least one optical element can be interchangeably inserted into the beam path and removed therefrom, said optical element which can be inserted into the beam path and removed therefrom being dynamically substantially decoupled from the remaining optical elements of the optical assembly.

5. Optical assembly according to Claim 4, wherein an opening adapted to the dimensions of the optical element which

can be inserted into the beam path and removed therefrom is provided in a housing of the optical assembly.

6. Optical assembly according to Claim 4, wherein said feeder device is dynamically decoupled from the optical assembly and is connected to a structure dynamically decoupled from the optical assembly.

7. Optical assembly according to Claim 4, wherein said dynamically decoupled optical element can be positioned and/or fixed in the beam path via a lifting device.

8. Optical assembly according to Claim 7, wherein said lifting device is dynamically decoupled from the optical assembly and connected to the structure dynamically decoupled from the optical assembly.

9. Optical assembly according to Claim 4, wherein a holding device is provided as stop and/or for fixing said dynamically decoupled optical element in the beam path.

10. Optical assembly according to Claim 9, wherein for the purpose of fixing said dynamically decoupled optical element in the beam path, said holding device is connected to one of the remaining optical elements.

11. Optical assembly according to Claim 9, wherein said dynamically decoupled optical element can be fixed via magnetic forces of said holding device.

12. Optical assembly according to Claim 7, wherein spring elements are provided between said lifting device and said dynamically decoupled optical element.

13. Optical assembly according to Claim 7, wherein said feeder device and/or said lifting device are arranged outside the optical assembly.

14. Optical assembly according to Claim 4, wherein said dynamically decoupled optical element can be manipulated by means of actuators.

15. Optical assembly according to Claim 4, wherein said dynamically decoupled optical element is designed as a diaphragm, in particular a revolving disc diaphragm.

16. Optical assembly according to Claim 1 or 4, wherein it is used in a projection exposure machine for microlithography in the field of EUVL for producing semiconductor components.

17. Projection exposure machine for microlithography in the EUVL field for producing semiconductor components with the aid of an optical assembly in accordance with Claim 16.